

LIFE DETECTOR



The Great Hanshin Earthquake that hit the Kansai area of Japan in 1995 claimed the lives of more than 5,000 people. It was said that if survivors had been found and rescued earlier, the number of victims would have been significantly lower. There is no end to the number of lives lost as the result of such disasters as landslides, collapsed tunnels and avalanches.

Our development of the life detector was motivated by a desire to help hasten the discovery of survivors buried under mud or trapped inside collapsed houses. The life detector utilizes radio waves to detect the breathing and movement of survivors. Insertion of antennas into rubble ensures that search operations can be carried out without interference caused by noise from the surrounding area. The detector also offers an improved S/N ratio and a dramatically reduced price compared with conventional models.

Providing powerful support to rescue operations for disaster victims and criminal investigation



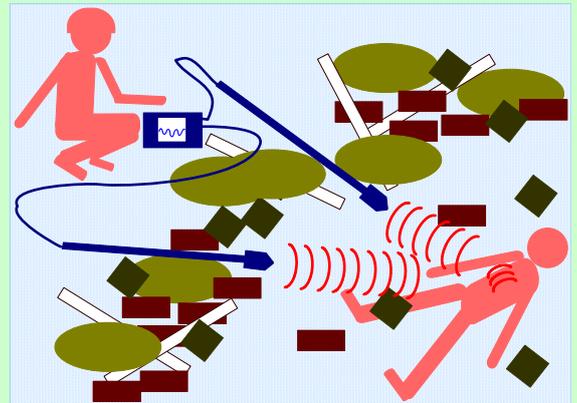
patent pending





Principles

The life detector utilizes radio waves to detect the breathing and movement of survivors. Insertion of antennas into rubble ensures that search operations can be carried out without interference caused by noise from the surrounding area.



Features

Since it had the circuit, which can cancel an unnecessary reflectivity wave in addition to adoption of a superheterodyne system, super-high sensitivity was realized.

By inserting the antennas, rescue crews can pick up faint breathing and movements of survivors hidden under debris. Free from interference caused by other activities at a disaster site, where a large number of rescue crews are at work, the equipment allows efficient detection of survivors.

Breathing and other life signs of survivors are detected and converted into sound and wave images so that they can be aurally and visually identifiable. The equipment makes possible quick detection of survivors at the site of a disaster, where speed counts most.

Automatic adjustment is possible. Adjustment of the unnecessary electric wave removal circuit for the formation of super-high sensitivity was automatically realized. Advanced adjustment technology became unnecessary.

High-speed operation of high-speed Fourier transform (FFT) was enabled by DSP(digital signal processor). Since the frequency of a respiratory waveform was detectable, discrimination of being a survivor was attained.

No personal computer is required. The detector handles adjustment, detection and printout all by itself. In addition, simplified button operation makes the equipment easy to use.

Reduced weight offers superior portability.

The wide range of optional devices fully meet the needs of those who work at disaster sites.

Detection of a real-time response in a waveform and a voice display is possible. The disaster victim could distinguish whether it replied to appeal, and raised a survivor's distinction correctness by leaps and bounds.

A response waveform and a respiratory waveform can be printed immediately on that spot.

The whole apparatus was made into waterdrop-proof structure (as IP61).

Utilize a pelican case and they are strong and the outstanding portability.

20 hours continuation use is possible for the battery.

Purposes

For use in rescue operations for victims of earthquakes, gas explosions, landslides, and cave-ins of underground construction sites, and in criminal investigations, including searches for criminals hiding inside buildings and detection of stowaways entering the country.

Major functions

- Detection of a survivor under rubble or on the other side of concrete wall.
- Detection of a stowaway hiding inside a freight container.
- Detection capability varies according to the thickness and state of the debris, mud and wall.

Directions for use

1. Connect the main unit and the antennas
Turn on the power.



2. Insert the signal transmitter and receiver antennas into rubble where there might be a survivor.

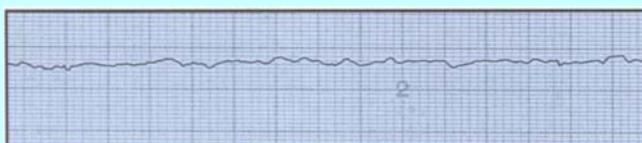


3. Adjust (automatically/manually) the level of radio wave emission and reception to conduct a search. Received radio waves will be displayed on the screen, as shown right, and sound corresponding to a wave pattern there is a survivor wave pattern will come out of the headset. The presence or absence of a survivor can be determined from both the wave shape and sound.

When there is a survivor



When there is no survivor



Survivor detection equipment **LIFE DETECTOR**

Major Specifications

Main detector unit

Weight	about 11 kg
Power source	DC12V Built-in battery
High-frequency Output	70mW or lower
Frequency used	1.2GHz
Output	Sound and LED display of wave pattern
Size	486W×392D×192D
Shock resistant hard package case	
Waterdrop-proof structure	IP grade is equivalent to 61.



Antenna and high-frequency cable

Weight	2kg×2=4 kg(except cable)
Antenna size	diameter of 35 (distal diameter :94) mm × 1,500 mm in length
Cable length	20m
Impedance	50Ω



Option devices

Reflected wave meter

This meter is attached to the radio wave transmitting antenna to adjust the insertion status of the antenna.

Frequency analyzer

This unit displays the result of analysis of signals on monitor.

Antennas

Options include the very small diameter antenna, monopole antenna and thin antenna. Please choose the antenna appropriate for you needs.

Design and specifications are subject to change without prior notice, and without any obligation on the part of the manufacture.



CAUTION! Before operating this equipment you should first thoroughly read the operation manual.

TAU GIKEN Co.,Ltd

<http://www1.odn.ne.jp/~aae76220>

Saedo-Cho 181, Tsuduki-Ku ,Yokohama,Japan TEL +81-45-935-0721 FAX +81-45-935-0731